



Reference project
Drinking water plant
Rotenburg / Fulda

Customer:	Stadtwerke Rotenburg an der Fulda
Plant:	Drinking water procurement and distribution
Project value:	about 0.2 million Euro
Project duration:	2001–2002

Description

As an independent municipal utility company, the “Stadtwerke Rotenburg an der Fulda” supplies drinking water to some 16 000 inhabitants. In addition, water is supplied to institutions of the regional authorities, the Bundeswehr (German Army), industrial companies, hotels, and hospitals. The necessary water – about 1 million m³ per year – is provided by several substations from near-surface wells, deep wells, and springs. From the wells and springs, the water is first pumped to high-level reservoirs, where it undergoes treatment before being distributed to the consumers.

In close cooperation with the company Willich Elektrotechnik GmbH, the entire process management & automation system was installed with innovative technology from ME-Automation Projects, formerly known as KH-Automation Projects. To ensure permanent quality of the drinking water, an optimum monitoring and recording network was implemented for the water procurement and distribution operations. Simultaneously, the modern automation and switchgear equipment enabled overall plant efficiency to be increased.

One part of the modernization measures involved replacement of the old switchgear cabinets in the substations with new switchgear operated by programmable logic controllers (PLCs) from Mitsubishi Electric. Data transmission between the PLCs in the substations and the central process management system is done via radio modems using the time-slot procedure. Thanks to this cyclical wireless communication, there is no longer any need for expensive leased telephone lines. Moreover, intelligent application programs in the process management system ensure the most efficient use of off-peak power and spring water that requires no pumps.

The substations are operated and monitored from the central control room in Rotenburg’s town hall. For this, all measurement values, operating data, and reports are accessible via the PMSX[®] pro operating station in the control room. The equipment in the substations, which usually works independently in the automatic mode, can also be controlled individually from the central control room. Because the control room is only manned during normal working hours, a reliable remote alarm system was installed. At night and during the weekends, process messages and alarms are transmitted immediately to the stand-by personnel via SMS.

A special solution had to be found for the substation of the “Hochbehälter Braach” high-level reservoir, as it is not connected to the mains supply. A solar-powered voltage supply enabled the expensive installation of mains supply cables to be avoided. Hereby, the measurement technology and the automation and communication components are energized by solar panels and powerful storage batteries.





Technical requirements

- Central operation and monitoring of the substations
- System-wide engineering from a central workplace
- Remote alarming via SMS
- Archiving of all incoming alarms & messages
- Archiving of all relevant measurement values in appropriate compression stages
- Stand-alone power supply with solar technology
- Strict data consistency
- Standardized software tools
- Ensuring the simple integration of future expansions

Scope of delivery

- Process management system PMSX® pro
- Automation equipment
- Wireless data communication
- Conversion of switchgear
- Installation & wiring
- Target specifications / engineering
- Programming
- Commissioning / trial operation
- Personnel training
- Documentation

Process management characteristics

- | | |
|---------------------------|----------------------|
| Process management system | PMSX® pro |
| Topology | distributed system |
| Network | Ethernet TCP/IP |
| Automation system | Mitsubishi FX series |
| Data points | 1 000 |
| Automation stations | 11 |
| Operating stations | 1 |
| Process servers | – |

Excerpt from our reference list

				
Waste incineration plant Frankfurt	Waste incineration plant Iserlohn	Waste incineration plant Weißenhorn	Wastewater treatment plant Erdinger Moos	Wastewater treatment plant Bad Homburg Ober-Eschbach
				
Milk production Regensburg	Energy supply center Dresden	Energy supply center Oberhausen	Pellet production plant Offenbach	Biomass CHP plant Wiesbaden
				
Energy supply center Munich Airport	Waste incineration plant Frankfurt	Drinking water plant Haltern	Sewage network and wastewater treatment plant Hamburg	Pellet production plant Dotternhausen
				
Wastewater treatment plant Düsseldorf-Nord	Waste incineration plant Frankfurt	Waste incineration plant Hamm	Waste incineration plant Frankfurt	Facility Management Control System Dresden
				
Facility Management Control System Nijmegen	Tank terminals Rotterdam	Barthel Pauls Söhne AG Biomass CHP plant	Wastewater treatment plant Stuttgart-Mühlhausen	Wastewater treatment plant Nuremberg
				
Wastewater treatment plant Nidderau	Wastewater treatment plant Landshut	Drinking water plant Friesland		
				
Tank terminal Botlek	Sewage network Wuppertal			

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